Technical Study 14
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OF INDIVIDUALS
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Government
Publications

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Abstracts (in both English and French) of the technical
studies prepared for the Task Force have been published
under one cover. This compilation, other technical
studies and the Task Force Report itself are available
from:

Enquiries and Distribution
Public Affairs Division
Canada Employment and
    Immigration Commission
140 Promenade du Portage
Ottawa K1A 0J9
Tel: 994-6313

ABSTRACT

THE UNEMPLOYMENT EXPERIENCE OF INDIVIDUALS

Graham Glenday and Glenn P. Jenkins

In this study we examine the unemployment experience of
workers who became unemployed during the period 1972 through
1979 in 19 regions across the country, a group that
represents about 58 per cent of the Canadian labour force.
The employment/unemployment experience of workers over this
eight-year period was derived from a data base constructed
from the one-in-ten sample of the administrative records kept
by the Department of Employment and Immigration concerning
Unemployment Insurance (UI) claims, Records of Employment and
certain income tax records of individuals in Canada. Direct
estimates were made of variables such as the number of
unemployment spells, the duration of these spells, the
proportion of these spells covered by UI benefits and the
unemployment rate experienced by the individuals over the
study period. We were then able to compare the structure and
relative hardship of unemployment in a region, as indicated
by the results, with the view gained by comparing the overall
unemployment rates of various regions. Regional unemployment
rates are currently used as the basis for targeting many
government employment and income maintenance programs.

A number of important results are presented. First, it
is found that although unemployment rates vary widely from
region to region (from a low of 3.3 in Edmonton to a high of
17.6 per cent in N.E. New Brunswick) the average proportion
of time that individuals are without work is more similar.
Although the unemployment rates of individuals in traditional
"slow-growth" regions with high unemployment rates
(represented here by Newfoundland, Cape Breton, N.E. New
Brunswick, Shawinigan and Sept Iles) tend to be higher than
in more "normal" labour market regions of Canada (42 per cent
compared to 32 per cent), this relative difference (31 per
cent more unemployment for individuals in the slow-growth
regions) is considerably less than the relative difference of

116 per cent between the average unemployment rates of the slow-growth and normal labour market regions over the 1972-79 period.

Second, we find that the UI system is somewhat biased towards providing increased benefits to high-unemployment-rate regions. In the slow-growth regions the proportion of labour force time in which no income is received averaged 16 per cent over the 1972-79 period, 2 percentage points less than in the other regions as a group, and 4 percentage points less than in high-growth regions such as Edmonton and Calgary.

Third, the wage rates of workers experiencing unemployment do not appear to be lower in the slow-growth regions of Canada. Regional comparison of jobs last held by the unemployed shows that wages in the slow-growth regions fall in the middle of the distribution of wage rates across the 19 selected regions.

Fourth, those experiencing unemployment at any given time tend to be those who are repeatedly unemployed (defined here as having at least one spell every four years). This group accounts for no more than 36 per cent of the Canadian labour force, but it accounts for 84 per cent of the unemployment spells and 89 per cent of the unemployed time experienced in Canada. This arises from the fact that the distribution of the turnover rates (the number of spells of unemployment per year in the labour force) is highly skewed across the labour force, which implies that a large proportion of workers seldom, if ever, become unemployed.

Fifth, the proportion of the labour force that is repeatedly unemployed varies greatly across the country, ranging from 27 per cent in Edmonton to 58 per cent in Newfoundland. In the traditional slow-growth regions the proportion of the labour force experiencing repeated unemployment spells is on average 40 per cent higher than that in the more normal labour market regions. It is the combined effect of the higher proportion of the labour force experiencing unemployment and the higher unemployment rates of the individuals actually experiencing unemployment that results in the considerably higher overall labour force unemployment rates in the slow-growth regions.

These results lead to a number of conclusions related to labour market behaviour and the importance of government policies. First, due to the equalizing tendency of the unemployment experience of individuals across regions and the generous UI benefit system, there is little incentive to remedy the disparties in regional unemployment rates by reducing the total amount of unemployed time generated in the slow-growth regions. Unemployment is likely to be reduced only by a fundamental change in the nature of the jobs available in these areas. Temporary jobs, those lasting for less than a year, tend to increase the total amount of unemployed time in a region because they give the worker an opportunity to remain idle and collect UI benefits once the job terminates. To reduce unemployment in slow-growth regions, unemployment and residence in these regions must be made less attractive and/or permanent jobs must be created and temporary jobs discouraged. By permanent jobs we mean those lasting for several years and which a worker cannot quit and easily re-enter.

Second, there is little justification for the degree of bias in the present UI system favouring high-unemployment regions. Under the present system unemployed individuals in regions with the highest unemployment rates spend less time without a source of income than do those in high-growth regions. At the same time opportunities to engage in non-market activites while classified as unemployed are much greater in rural, slow-growth regions than in urban, high-growth regions. Hence, incentives to work may be substantially less in the regions of traditional high unemploymnt than those faced by members of the labour force in high-growth areas.

SOMMAIRE

CARACTÉRISTIQUES DU CHOMAGE DES PARTICULIERS

Graham Glenday et Glenn P. Jenkins

Dans cette étude, nous avons examiné les caractéris-
tiques du chômage des travailleurs qui ont perdu leur emploi
entre 1972 et 1979 dans 19 régions du Canada et qui repré-
sentent 58 % environ de la population active. L'emploi et
le chômage des travailleurs, au cours de cette période de
huit ans, ont été établis à partir de données extraites des
dossiers administratifs (un dossier sur dix) du ministère de
l'Emploi et de l'Immigration portant sur les demandes de
prestations d'assurance-chômage, les registres d'emplois et
de certains dossiers d'impôts de particuliers au Canada. A
partir de cette base de données, il a été possible d'obtenir
des estimations directes de variables telles que le nombre
de périodes de chômage, la durée de ces périodes, la
proportion des périodes pendant lesquelles des prestations
d'assurance-chômage ont été versées et le taux de chômage
des particuliers qui étaient en chômage entre 1972 et 1979.
Ensuite, à la lumière des résultats, nous avons pu comparer
la structure du chômage et les difficultés qu'il entraîne
dans une région avec la perspective qu'on a obtenu en
comparant les taux de chômage globaux de la population
active d'une région à l'autre. Les taux de chômage
régionaux sont actuellement utilisés pour déterminer les
groupes auxquels s'adresseront de nombreux programmes
gouvernementaux d'emploi et de maintien du revenu.

Nous présentons ici un certain nombre de résultats
importants. Tout d'abord, nous avons constaté que le taux
de chômage varie grandement d'une région à l'autre du pays
(de 3,3 % à Edmonton à 17,6 % au Nord-Est du Nouveau-
Brunswick), mais que la proportion moyenne du temps passé en
chômage présente davantage de similitudes. Même si les

taux de chômage des particuliers habitant les régions à taux élevé de chômage et traditionnellement caractérisées par une croissance lente (représentées ici par les régions de Terre-Neuve, du Cap-Bretion, du Nord-Est du Nouveau-Brunswick, de Shawinigan et de Sept-Iles) étaient généralement plus élevés que dans les autres marchés du travail plus "normaux" du pays (42% par rapport à 32%), cette différence relative (31% plus de chômage chez les particuliers dans les régions à croissance lente) était bien moins considérable que la différence relative de 116 % entre les taux moyens de chômage des régions à croissance lente et ceux des régions où le marché du travail est plus normal, au cours de la période de 1972 à 1979.

Deuxièmement, nous constatons que le système d'assurance-chômage tend à verser des prestations plus généreuses aux chômeurs des régions caractérisés par un taux de chômage élevé. Dans les régions à croissance lente, la proportion de temps pendant laquelle les chômeurs étaient sans revenu atteignait 16 % en moyenne pour la période de 1972 à 1979, soit deux points de pourcentage de moins que les autres régions prises en tant que groupe, et quatre points de pourcentage de moins que les régions à forte croissance comme Edmonton et Calgary.

Troisièmement, les taux de rémunération des travailleurs touchés par le chômage ne semblent pas être inférieurs dans les régions du Canada caractérisées par une croissance lente. Si on établit une comparaison des derniers emplois occupés par les chômeurs dans chaque région, on constate que la rémunération des particuliers dans les régions à croissance lente se situe au milieu de l'échelle de rémunération dans les 19 régions choisies.

Quatrièmement, les actifs touchés par le chômage à un moment ou à un autre sont généralement ceux qui sont très souvent en chômage, c'est-à-dire ceux qui sont en chômage au moins une fois tous les quatre ans. Ce groupe représente tout au plus 36 % de la population active canadienne, mais 84 % des périodes de chômage et 89 % du temps en chômage au Canada lui est attribuable. Cela tient au fait que la répartition du taux de roulement (ou du nombre de périodes de chômage par année au sein de la population active) est surtout concentrée chez une certaine partie de la population active, ce qui mène à la conclusion qu'une grande proportion des travailleurs connaissent rarement ou ne connaissent jamais le chômage.

Cinquièmement, la proportion de la population active qui est très souvent en chômage varie beaucoup d'une région à l'autre du pays, soit de 27 % à Edmonton à 58 % à Terre-Neuve. La proportion des actifs qui sont régulièrement en chômage est de 40 % plus élevée en moyenne dans les régions à croissance lente que dans les autres régions où le marché du travail est plus normal. Ce sont les effets conjugés d'une plus grande proportion de la population active touchée par le chômage et des taux de chômage plus élevés des particuliers déjà en chômage qui expliquent les taux de chômage beaucoup plus élevés de l'ensemble de la population active dans les régions à croissance lente par rapport aux autres régions.

Ces résultats mènent à un certain nombre de conclusions liées au comportement du marché du travail et à l'importance des politiques gouvernmentales. En premier lieu, en raison des tendances égalisatrices du chômage vécu par les particuliers de toutes les régions et de la générosité des

prestations de l'assurance-chômage, peu de chose incite à combler les écarts qui subsistent entre les régions quant aux taux de chômage, ainsi qu'à y écourter la durée des périodes de chômage. Pour réduire le chômage, seule une modification fondamentale de la nature des emplois offerts dans les régions à taux de chômage élevé se révèlera vraisemblablement efficace. Les emplois temporaires, ceux dont la durée est inférieure à un an, tendent à prolonger la durée totale du chômage dans une région puisqu'ils offrent aux actifs la possibilité de retourner à l'oisiveté et de toucher des prestations d'assurance-chômage une fois que leur emploi a pris fin. En conséquence, pour réduire le chômage dans une région, il faudra ou bien que le particuler trouve moins intéressant d'habiter les régions à taux de chômage élevé ou d'y être en chômage, ou bien que l'on crée des emplois permanents dans ces régions et qu'on renonce à la création d'emplois temporaires. Par emplois permanents, nous entendons ceux dont la durée est de plusieurs années et qu'un travailleur ne peut quitter pour ensuite être réembauché facilement.

En deuxième lieu, rien ne justifie que le régime d'assurance-chômage favorise les régions à taux de chômage élevé comme c'est actuellement le cas. Grâce à ce régime, les chômeurs dans les régions où le taux de chômage est le plus élevé sont moins longtemps privés de revenus que les chômeurs dans les régions à forte croissance. D'autre part, les possibilités de s'adonner à des activités marginales tout en étant classé comme chômeur sont beaucoup plus élevées dans les régions rurales à taux de chômage élevé que dans les régions urbaines à forte croissance. Il s'ensuit que les incitations à travailler peuvent être considérable-ment moindres dans les régions à taux de chômage élevé que dans les régions à forte croissance.

INTRODUCTION

Analyses of labour force behaviour in the 1970's has
largely dispelled the traditional view of unemployment as a
state into which a subgroup of the labour force are thrown
during cyclical downturns to remain there until the economy
recovers.[1] Instead evidence suggests that unemployment is
more appropriately viewed as a "stocks and flow" process, a
process in which many individuals are continuously moving
between states of unemployment, employment and out of the
labour force over time.[2] Nevertheless, the rate of
unemployment (measured as the stock of individuals unemployed
at a particular point in time and expressed as a percentage
of the labour force) has continued to be the single most
important indicator of labour market conditions used to
evaluate and formulate economic policy in the advanced
developed countries.

In this paper we wish to focus on the nature of
unemployment as we consider the experience during the 1970's
of the various labour markets across Canada. While many
studies of unemployment have examined the unemployment
experience of the labour markets by region we will
concentrate our effort on the study of the unemployment
experience over time of individuals who have become
unemployed in various regions. Finally, as the data set we
have developed allows us to track the unemployment-employment
experience of individuals for up to eight years (1972 through
1979), we wish to explore the hypothesis that unemployment
tends to be a chronic phenomenon associated with a minority
of individuals and types of jobs and not an experience shared
by a large majority of the people in the labour force.

Most research on unemployment issues in Canada has
utilized information collected either by monthly labour force

survey or through the survey of the annual work patterns of individuals in the Canadian labour force.[3] More work has been done in the U.S. using longitudinal data on the individual workers experience through time, but this information has either been restricted to sub-groups of the labour force or only covered a duration of not more than two years.[4]

This study will utilize a longitudinal data base developed from the administrative records of the Unemployment Insurance Commission (U.I.C.) in Canada. Using a ten percent sample of all individuals who have made one or more claims for unemployment insurance benefits (UI) between January 1972 and December 1979 we have constructed the weekly employment and unemployment experiences of individuals over this period. If an individual entered the labour force since 1972, the information begins as of the date when the person started his first job. To contruct this data base the records of employment (ROE) that the employer must file with the UIC system whenever an employee is separated (even temporarily) from a job were merged with the UIC records of unemployment compensation collected by the individual as well with certain wage and salary information obtained from income tax records.[5]

While this information is restricted to those individuals who have filed a claim for UI benefits at least once, and hence, does not include those who are unemployed but have never worked, it does cover the unemploment experience of the vast majority of the unemployed and, in particular, those people who have been the focus of most of government policy, namely, the U.I. beneficiaries.[6]

II   LABOUR FORCE AND INDIVIDUAL UNEMPLOYMENT RATES

The unemployment rate of a labour market has traditionally been used as an indicator of the degree of hardship inflicted by unemployment in a region. This rate, however, is made up of two elements that are critical in the determination of whether or not hardship is experienced by individuals at a given level of unemployment. The basic determinants of a rate of unemployment of a labour force at a point in time are the frequency at which individuals in the labour force become unemployed per unit of time they are in the labour force, known as labour force turnover (TL), and the average duration of unemployment spells (D). Labour force turnover (TL) can itself be expressed as a function of the distribution of the turnover rates across individuals $(T_i$, i=1....n) within the labour force. It is the importance of shape of this distribution of individual turnover rates (T_i) in determining the structure of unemployment across labour markets that is the major focus of this paper.

In Figure 1 we show the average frequency of becoming unemployed per year, ranked from lowest to highest, for all members of the 1979 Canadian labour force. These frequencies were calculated for each member of our sample as follows:

(1) $T_i = (S_i/NWKLF_i)(52)$,

where S_i is the number of spells of unemployment the ith worker had during the period 1972 through 1979, and $NWKLF_i$ is the number of weeks the ith worker spent in the labour force during this period. From this distribution we find that 64 per cent of the Canadian labour force have a value of T_i of less than .25. In other words, 64 per cent of the Canadian labour force experience unemployment less than once every four years. Of this group only 15 per cent managed to experience any unemployment over the eight year period. The

FIGURE 1

DISTRIBUTION OF THE TURNOVER RATES
OF THE CANADIAN LABOUR FORCE

Average frequency of unemployment spells per year in labour force
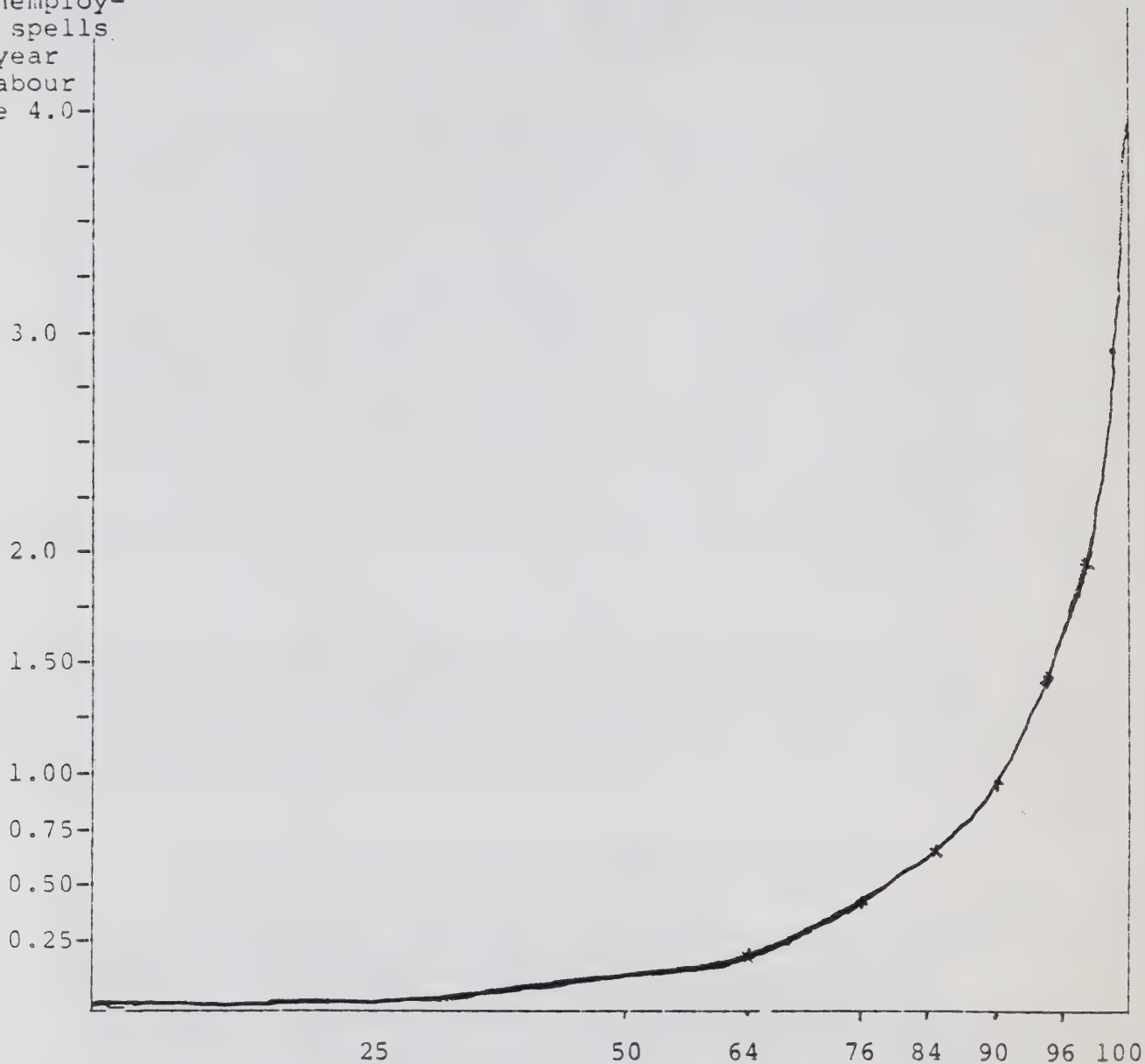
Percentage of Labour Force

turnover rate for the remaining 36 per cent of the labour
force, all of whom experienced multiple unemployment spells
over the eight year period, averaged .88 spells per year, or
one spell of unemployment approximately every 14 months.
Even within this group we can see from Figure 1 that the
frequency of unemployment is very unevenly distributed.

Given this very uneven distribution of the incidence of
unemployment across members of the Canadian labour force, it
follows that the rate of unemployment, expressed as a
percentage of the labour force, is likely to be a poor measure
of the proportion of labour force time that the typical
individual is likely to spend unemployed. To measure the
unemployment experience of individuals who were unemployed at
least once during the 1972-1979 period the total number of
weeks that an individual was not employed (while in the
labour force) was expressed as a ratio to the number of weeks
the person was in the labour force over these 8 years. This
gives us an estimate of the proportion of labour force time
people who have experienced some unemployment spend
unemployed. Whether a person is or is not in the labour
force when he is not working is somewhat of an arbitrary
allocation and a problem that has troubled labour force
statisticians for some time. As our data were developed from
the unemployment insurance administrative records there are
several reasons provided from that source of information on
why some people have taken themselves out of the labour force
(e.g., sickness, retirement, pregnancy, at school). In
addition, we have deemed an individual to be out of the
labour force if the person quit his previous job, did not
claim for unemployment insurance, and did not obtain
subsequent employment for an extended period. In addition,
if a person has not been in the labour force at least eight
years we define the entry date as the first week of the
individual's first employment spell. This definition of
labour force time will contain two opposing biases as
compared to the normal definition of the labour force

provided by the labour force survey.[7] First, people who
are unemployëd, but not looking for work, are counted as
being out of the labour force according to the labour force
survey, but would generally be included in our measure of the
labour force unless they explicitly told the U.I.C. that they
were not in the labour force or they failed to claim U.I.
benefits after voluntarily leaving a job. Secondly, new
entrants who are still unemployed would be included in the
labour force under the labour force survey definition, but
would be excluded under our criteria. From our attempts to
reconcile the two measures of unemployment, it appears that
the first bias tends to outweigh the second.

In Table 1, column 1 the average conventional labour
force unemployment rate is presented for Canada and for a
sample of 19 other regions across Canada for the period
1972-1979.[8] This rate has the well known pattern of being
above 12 per cent in such regions as Newfoundland, Cape
Breton Island, and Northeast New Brunswick and between 8 to
12 per cent in most regions of Quebec. In areas such as
Vancouver, Halifax, Oshawa, Timmins and Kingston, it
generally hovers between 6 and 8 per cent and ranges between
3.0 to 6 per cent in labour markets such as Toronto,
Winnipeg, Saskatoon, Calgary and Edmonton. Moving from the
unemployment rate of the labour force to the average
proportion of labour force time people who experience some
unemployment are not working (P_u), we find in column 2 the
rates are very different in two respects. First, the latter
rates are much larger, which is a reflection of the fact that
the people who experience unemployment form a subset of the
labour force. Hence, the labour force unemployment rate
greatly underestimates the rate of unemployment for those
individuals who experience some unemployment. Second, if we
separate the labour markets in Canada that have had labour
force unemployment rates averaging less than 10 per cent, and
hence, can in some sense be classified as "normal" from the
traditional "slow growth" regions that have had unemployment

rates averaging over 10 per cent, we find a striking
similarity in the average experience of an unemployed person
across regions within these two groups. The simple average
of the unemployment rate of workers experiencing unemployment
across the normal labour market regions is 32 per cent with a
standard deviation of 2.1 percentage points. The averages of
this rate for unemployed workers in Halifax, Sherbrooke,
Montreal, Oshawa, Windsor, Kingston, Timmins, Winnipeg,
Saskatoon, Edmonton Calgary and Vancouver all fall within the
range of 30 and 34 per cent of the time they are in the
labour force. For the same time period, the average labour
force unemployment rates across these regions range from 8.6
per cent in Sherbrooke to a low of 3.3 per cent in Edmonton.
The lowest average individual unemployment rate at 28 per
cent has been in Toronto where the unemployment rate averaged
5.1 per cent.

In the traditional slow growth regions the unemployed
workers spent approximately 42 per cent of their time
unemployed. In these regions workers on average experienced
approximately 30 per cent more unemployed time per unemployed
person than the average unemployed Canadian. Average labour
force unemployment rates in these regions, however, are more
than twice as high as those for the normal labour market
regions.

From Figure 1 we see that the turnover rate is not
evenly distributed across all members of the labour force,
but is highly concentrated within a relatively small group.
Hence, it is useful to investigate the unemployment rate of
those individuals who chronically experience unemployment
(P_u^c). As we find that the unemployment experience is
highly concentrated among there who experience more than 1
spell of unemployment ever 4 years, this is the criteria we
will use later to separate the chronically unemployed from
those who are only rarely (or never) without a job.

TABLE 1

ALTERNATIVE MEASURES OF UNEMPLOYMENT RATE

REGIONS	(1) AVERAGE UNEMPLOYMENT RATE OF LABOUR FORCE 1972-1979	(2) AVERAGE UNEMPLOYMENT RATE OF WORKERS WHO EXPERIENCE UNEMPLOYMENT (P_u) 1972-1979	(3) AVERAGE UNEMPLOYMENT OF CHRONICALLY UNEMPLOYED WORKERS ($P_u{}^c$) 1972-1979
		(PER CENT)	
CANADA	6.9	33	36
NORMAL LABOUR MARKETS			
HALIFAX	6.6	34	37
SHERBROOKE	8.6	34	37
MONTREAL	7.5	33	36
TORONTO	5.1	28	31
WINDSOR	7.1	32	35
OSHAWA	6.2	30	30
KINGSTON	6.0	33	37
TIMMINS	7.6	34	37
WINNIPEG AND N. MANITOBA	4.9	31	34
SASKATOON AND N. SASKATCHEWAN	4.3	34	37
EDMONTON	3.3	30	32
CALGARY	4.2	31	32
VANCOUVER	7.4	33	36
DAWSON CREEK AND NORTH B.C.	7.8	36	38
MEAN (simple average)	6.2	32	35
STD. DEV.	1.6	2.1	3.6
TRADITIONAL SLOW GROWTH REGIONS			
NEWFOUNDLAND	13.4	45	48
CAPE BRETON	13.0	40	44
N.E. NEW BRUNSWICK	17.6	48	52
SHAWINIGAN	10.6	38	42
SEPT-ILES	12.2	40	43
MEAN (simple average)	13.4	42	46
STD. DEV.	2.6	4.1	4.1

Source:
Col. 1: Statisitics Canada, **The Labour Force**, Catalogue 71-001, 1972-1980
Col. 2,3: Calculated by authors from UIC - ROE data base.

For all of Canada, the chronically unemployed are out of work approximately 36 per cent of the time. The unemployment experience of this group across the normal labour markets in Canada is also very uniform ranging from 30 per cent of the time in Oshawa, 38 per cent in Dawson Creek. For workers who are repeateldly unemployed their average unemployment rates in Halifax, Sherbrooke, Montreal, Windsor, Kingston, Timmins, Winnipeg, Saskatoon, Edmonton, Calgary, and Vancouver fall within range of 32 to 37 per cent of their labour force time. In the traditional slow growth regions the regional averages are somewhat higher, falling in the range of 42 to 52 per cent of labour force time.

III   UNEMPLOYMENT INSURANCE BENEFITS AND
      THE HARDSHIP OF UNEMPLOYMENT

Since 1971 Canada has had one of the most generous unemployment insurance systems in the world.[9] In brief, during much of this period an unemployed person after a 2 week waiting period could collect two-thirds (or since 1978, 60 per cent) of his average insurable earnings for a period of time that was related to his employment history and the labour force unemployment rate of the region. The minimum length of time a person must have worked was 8 weeks, but since 1978 this has been raised to now range between 10 and 14 weeks depending upon the regional unemployment rate. A ceiling was also set on the average insurable earnings at approximately the average wage in the Canadian economy (in 1979 the ceiling was $265.00/week).[10]

Under the rules of the U.I.C. system a person who has worked from 14 to 26 weeks is eligible for at least an equal number of weeks of unemployment insurance benefits. If a person has worked more than 26 weeks, then the individual can collect up to 13 more weeks of UI benefits under the rule that he gets 1 week of UI benefits for every 2 additional weeks of work.

Since 1978, the labour force unemployment rate of the region affects the UI benefits in two ways. First, if the unemployment rate is above 6% the qualifying periods falls progressively to the point where, if the regional rate is over 9 per cent, then the minimum length of employment to obtain UI benefits is reduced to 10 weeks. Second, if the regional unemployment rate was over 4.0%, then after a person had run out of his initial benefit period he is eligible for an additional 2 weeks of UI benefits for every additional .5 percentage points the regional unemployment rate is above 4 percent. A ceiling of 52 weeks per claim period is enforced regardless of whether a person could theoretically be eligible for more than 52 benefit weeks.[11]

As a result of this system, if a person became unemployed after working 13 weeks in Toronto, Winnipeg, Saskatoon, Calgary or Edmonton, they would receive no UI benefits. In contrast, if a person has the same experience in any region that has a rate of unemployment of over 11.5 per cent, then he is eligible for up to 45 weeks of UI benefits.

To estimate how the UIC system interacts with the unemployment rates of individuals in these various regions we have estimated the proportion of all unemployed time (b_a) that is accompanied by the receipt of UI benefits. These values are presented in column 1 of Table 2. We find for Canada as a whole approximately 49 per cent of unemployed time was accompanied by the receipt of UI benefits. While this may appear rather low we should point out that this is mainly caused by the 2 week compulsory waiting period before UI can be collected accompanied by the fact that most unemployment spells are of short duration. Many spells are so short that no UI benefits are collected. If we measure the percentage of unemployed time covered by UI benefits for those spells where UI benefits were actually collected (b_c)

TABLE 2

UNEMPLOYMENT INSURANCE AND HARDSHIP ACROSS REGIONS IN CANADA

REGION	(1) PROPORTIONS OF UNEMPLOYED TIME COVERED BY UI BENEFITS		(2) PROPORTION OF LABOUR FORCE TIME NOT COVERED BY UIC BENEFITS OR WAGES (UNEMPLOYED WORKERS)	(4) PROPORTION OF JOBS LOST WITH ABOVE AVERAGE WAGES
	(b_a)	(b_c)	(h_a)	
CANADA	.49	.65	.17	.43
NORMAL LABOUR MARKETS				
HALIFAX	.53	.65	.16	.36
SHERBROOKE	.53	.66	.16	.27
MONTREAL	.54	.68	.15	.34
TORONTO	.44	.63	.16	.41
WINDSOR	.46	.64	.17	.46
OSHAWA	.43	.60	.17	.58
KINGSTON	.40	.68	.20	.34
TIMMINS	.48	.66	.18	.50
WINNIPEG AND N. MANITOBA	.41	.62	.18	.35
SASKATOON AND N. SASKATCHEWAN	.42	.66	.20	.43
EDMONTON	.35	.61	.20	.48
CALGARY	.36	.61	.20	.55
VANCOUVER	.46	.65	.18	.54
DAWSON CREEK AND NORTH B.C.	.42	.62	.21	.66
TRADITIONAL SLOW GROWTH REGIONS				
NEWFOUNDLAND	.63	.76	.17	.42
CAPE BRETON	.58	.71	.17	.36
N.E. NEW BRUNSWICK	.66	.78	.16	.37
SHAWINIGAN	.57	.68	.16	.38
SEPT-ILES	.60	.71	.16	.52

Source: Calculated by authors from UIC - ROE data base

we find that for Canada this percentage increases to 65 percent. The estimates of this variable for each of the regions are presented in Table 2, column 2.[12]

With this information by region along with the average unemployment rates for unemployed individuals in each region (Table 1, col. 2), we can estimate the proportion of labour force time workers in the various regions spend on average both unemployed and not collecting unemployment insurance benefits (h_a). This is estimated as:

$$(2) \qquad h_a = (1-b_a)(P_u),$$

where P_u is the unemployment rate of individuals who have experienced some unemployment.

The estimates of h_a by region are presented in Table 3, column 3. For Canada we find that those unemployed in Canada spend on an average 17 per cent of their time both unemployed and without UI benefits. A comparison of the regional estimates, however, yields the surprising result that in the traditional slow growth regions the unemployed spend a slightly smaller fraction of the year being both unemployed and not collecting UI benefits than to the unemployed in such areas as Kingston, Timmins, Winnipeg, Saskatoon, Edmonton, Calgary, Vancouver and Dawson Creek. While the unemployed workers in the traditional slow growth regions spend on average about 2 percentage points less of their time receiving either wages or UI benefits than in the normal regions, the variation this proportion of time receiving no income across all regions is suprisingly small. The range between the highest and lowest is only 5 percentage points.

This finding arises through the interaction of the UIC system containing its extended benefit provisions for those living in high unemployment regions with the proportion of time those unemployed in the regions spend unemployed. It appears that the UIC system at present tends to overcompensate for differences that arise in the latter variable across regions.

Another indicator of the degree of hardship suffered by the unemployed is the relative wages these unemployed earned in their previous jobs as compared to the average earnings of Canadians in that year. Information from the UIC administrative files gives us the actual wages the worker earned in the job he left if that amount is less than the maximum insured earnings (average Canadian earnings) as defined by the UIC system. If the person earned a wage above this maximum, then we are told that the worker was at or above the maximum insured earnings. As an indicator of the level of earnings in a region amongst the unemployed, we have estimated the proportion of all jobs held by the unemployed that paid wages equal to or above the maximum insured earnings. These estimates are presented in column 4 of Table 2.

On average the unemployed in the normal labour markets earn lowest wages in the regions of Sherbrooke, Montreal, Kingston, and Winnipeg and N. Manitoba, while wages in the traditional slow growth regions fall into the middle range of wage rates in Canada. It would appear that the wage rates in the high unemployment regions have not become depressed due to the large proportion of the labour force experiencing unemployment.

The results of this analysis tends to support the conclusion that at the present time there exists little or no incentive for regional labour market unemployment rates to become more equalized across Canada. While the disparity of

unemployment rates for the labour forces are large, the
unemployment experienced by those who become unemployed is
significantly equalized across regions.[14] The
co-efficient of variation (the standard deviation expressed
as a percentage of the mean value) of the overall
unemployment rates across the 19 regions in Table 1 is 46.4
per cent, while that for the unemployment rates for the
unemployed individuals is only 14.8 per cent. In addition,
the unemployment insurance system probably has
overcompensated for the larger amount of time workers are not
working in the slow growth regions. Workers experiencing
unemployment in these regions tend to have fewer weeks a year
when they do not receive income from either a job or the UI
system than do workers who become unemployed in the high
growth regions of Western Canada. Furthermore, it is
probable that in the traditional slow growth (generally
rural) regions there are more opportunities for non-market
leisure and productive activities (farming, fishing, or
hunting) than in the high growth (generally more urban)
regions. Such opportunities add to the incentives of workers
experiencing unemployment to stay in these regions.

IV. THE TEMPORARY AND PERMANENT SECTORS OF THE CANADIAN LABOUR FORCE

From Figure 1 we have seen that the labour force can be
approximately dicotomized between those individuals who
seldom, if ever, become unemployed and those who are
repeatedly unemployed. Because the distribution across
individuals according to the frequency of their rate of
labour force turnover is a continuous function, any
classification of the members of the labour force is
necessarily somewhat arbitrary. Nevertheless, we have set

out two related rules to segment the labour market for the purposes of the analyses of unemployment.

We define as temporary sector A those workers who experience an unemployment spell of 4 weeks or more in duration at least once every 4 years. Temporary sector B is a broader classification. It includes all those workers who experience an unemployment spell of one week or more in duration at least once in every 4 years. Under these criteria temporary sector A workers will be a subset of temporary sector B. All these workers not in the temporary sector are classified as being part of the permenent sector of the Canadian labour force.[13]

Using the UIC-ROE data set for 1972 to 1979 we have attempted to classify members of the Canadian labour force according to these criteria and also to relate the temporary sector to the actual size and composition of the Canadian labour force in 1979. In addition, we have tried to determine if it is meaningful to dicotomize the Canadian labour force in this way. The results of this analysis are presented in Tables 3 and 4.

In column 2 the proportion of the Canadian labour force and those of each region that can be classified as temporary sector are presented under the two criteira. Under the more restrictive definition (type A), we find that 24 percent of the Canadian labour force of this type. Temporary sector B workers, in turn, make up 36 percent of the total Canadian labour force.

Across regions we find that the size of the temporary sector A ranges from being equal to 16 percent of the total labour force in Oshawa and Edmonton to a high of 46 percent of the labour force in Newfoundland and Northeast New

TABLE 3

RELATIVE IMPORTANCE OF TEMPORARY WORKERS

IN REGIONAL UNEMPLOYMENT (BASED ON 1979)

REGIONS	TEMP WORKER CLASSIF. (1)	PROP. OF ALL WORKERS IN LABOUR FORCE (2)	PROP. OF WORKERS EXPERIENCING SOME SOME UNEMPL. IN 1974-1979 (3)	PROP. OF WORKERS UNEMPLOYED IN 1979 (4)
CANADA	A	.24	.43	.59
	B	.36	.65	.31
NEWFOUNDLAND	A	.46	.60	.74
	B	.58	.76	.88
CAPE BRETON	A	.36	.51	.68
	B	.47	.67	.83
HALIFAX	A	.19	.40	.58
	B	.30	.63	.79
N.E. NEW BRUNS	A	.46	.60	.76
	B	.57	.75	.88
SHERBROOKE	A	.30	.47	.63
	B	.44	.68	.83
SHAWINIGAN	A	.23	.47	.63
	B	.38	.68	.83
MONTREAL	A	.19	.40	.57
	B	.29	.64	.30
SEPT-ILES	A	.35	.59	.74
	B	.45	.76	.99
TORONTO	A	.17	.34	.51
	B	.29	.60	.78
WINDSOR	A	.26	.43	.58
	B	.42	.70	.85
OSHAWA	A	.16	.39	.51
	B	.28	.67	.83
KINGSTON	A	.26	.43	.60
	B	.38	.64	.80
TIMMINS	A	.28	.42	.57
	B	.43	.66	.81
WINNIPEG & N. MAN.	A	.17	.37	.55
	B	.31	.61	.79
SASKATOON & N. SASK	A	.18	.43	.59
	B	.28	.68	.83
EDMONTON	A	.16	.40	.56
	B	.27	.66	.81
CALGARY	A	.17	.41	.55
	B	.29	.68	.81
VANCOUVER	A	.32	.45	.63
	B	.47	.68	.83
DAWSON CREEK	A	.32	.54	.69
	B	.46	.77	.89

Brunswick.   Likewise, the size of the temporary sector B
ranges from 27 percent of the labour force in Edmonton to 58
percent of the labour force in Newfoundland.   If a comparison
is drawn between the relative sizes of the temporary sectors
in the traditional slow growth regions and the normal labour
market regions, then it is found that under both
classifications the relative size of the temporary sector is
about 15 percentage points higher on average in the former as
compared to the latter regions, or approximately 70 percent
larger by criterion A and 40 percent larger by B.

Although temporary sector B workers made up 36 percent
of the members of the labour force we find (in column 3) that
they made up 65 percent of all the workers in the Canadian
labour force who experienced some unemployment during the
five year period 1974-1979.   As the temporary sector workers
become unemployed repeatedly, while the permanent sector type
are only rarely unemployed we find, in column 4, that of all
the workers unemployed in Canada during 1979 approximately 81
percent were part of the temporary sector B labour force.

Similarly, the temporary sector A workers made up 24
percent of the labour force in 1979, represented 43 percent
of all the workers unemployed from 1974-1979 and represented
59 percent of all the workers unemployed during 1979.

Turning to Table 4 we find, in column 2, that of all the
unemployment spells occuring in Canada during 1979, over 64
percent were caused by type A temporary sector workers while
84 percent were accounted for by the unemployment spells of
temporary sector type B workers.   Of the total amount of
unemployed time created during 1979 we find, from column 3,
that 69 percent and 88 percent was created by type A and type
B temporary sector workers, respectively.   Across regions
between 63 percent (in Edmonton) and 82 percent (in N.E. New

TABLE 4

RELATIVE IMPORTANCE OF TEMPORARY WORKERS
IN REGIONAL UNEMPLOYMENT (BASED ON 1979)

REGIONS	(1) TEMP WORKER CLASSIF.	(2) PROPORTION OF UNEMPLOY-MENT SPELLS IN 1979	(3) PROPORTION OF UNEMPLOYMENT TIME IN 1979	(4) (5) RATIOS OF TEMP/PERM	
				TURNOVER	PROBABILITY OF BEING UNEMPLOYED IN 1979
CANADA	A	.64	.69	5.67	4.94
	B	.84	.88	9.07	8.09
NEWFOUNDLAND	A	.77	.81	3.44	3.51
	B	.91	.93	6.02	5.65
CAPE BRETON	A	.72	.68	4.18	3.94
	B	.87	.89	4.90	5.73
HALIFAX	A	.62	.67	6.90	5.99
	B	.82	.88	10.66	9.51
N.E. NEW BRUNSWICK	A	.81	.82	3.95	3.93
	B	.91	.92	5.54	5.79
SHERBROOKE	A	.68	.71	5.08	4.07
	B	.85	.88	7.96	6.60
SHAWINIGAN	A	.67	.70	6.90	5.68
	B	.87	.89	13.43	10.26
MONTREAL	A	.61	.66	5.80	5.09
	B	.83	.87	11.60	10.68
SEPT-ILES	A	.78	.80	5.69	6.08
	B	.90	.92	9.85	9.42
TORONTO	A	.55	.75	5.92	5.15
	B	.80	.88	9.60	8.42
WINDSOR	A	.61	.68	4.29	4.15
	B	.88	.89	9.60	9.13
OSHAWA	A	.53	.59	6.08	5.55
	B	.86	.86	17.03	12.96
KINGSTON	A	.63	.69	4.72	4.55
	B	.82	.87	7.33	6.95
TIMMINS	A	.61	.66	4.36	3.66
	B	.83	.87	6.95	5.94
WINNIPEG & MANITOBA	A	.59	.64	6.37	5.60
	B	.80	.85	9.35	9.07
SASKATOON & N. SASK.	A	.63	.67	8.12	7.14
	B	.84	.88	14.80	13.48
EDMONTON	A	.61	.63	8.08	7.20
	B	.83	.85	13.32	12.70
CALGARY	A	.60	.64	7.42	6.40
	B	.83	.86	12.49	11.85
VANCOUVER	A	.68	.72	4.58	3.82
	B	.86	.89	6.76	6.09
DAWSON CREEK	A	.74	.75	5.65	5.03
	B	.90	.92	10.40	9.98

Brunswick) of the total unemployed time occuring in 1979 was associated with temporary sector type A members of the labour force, and between 85 percent (in Edmonton) and 93 percent (in Newfoundland) was associated by temporary sector B workers.

We also attempted to compare the propensity of temporary sector workers of both types to have a spell of unemployment as compared to rest of the labour force not assigned to these groups. First, we compared the turnover rate of both of these groups with that of the permanent sector. In column 4 we find that for Canada the turnover rate (the proportion of workers of a given type that will become unemployed per period) of the temporary sector labour force was between 5.7 to 9.0 times as great as that for the permanent sector labour force. Across regions this relationship ranged from a low of 3.44 for temporary sector type A workers in Newfoundland, to a high of 17.0 for temporary type B sector workers in Oshawa.

In Table 4, column 5 the probability of a temporary sector worker becoming unemployed in 1979 is compared to the probability of a member of the permanent sector becoming unemployed. In Canada the ratio ranges from 4.9 to 8.1 for the type A and B workers, respectively. Again this ratio ranges form 3.51 for type A temporary workers in Newfoundland to 13.48 for type B temporary workers in Saskatoon.

Clearly there is a dramatic difference in the unemployment experience of these two groups of workers in the Canadian labour force. A relatively small group of workers in most regions experiences unemployment repeatedly while others are seldom unemployed. They in turn also experience the vast majority of the total unemployed time present in the Canadian labour force.[15]

V. SUMMARY AND CONCLUSIONS

This study has examined several of the key characteristics of unemployment in Canada and the relative hardship arising from these phenomena across a variety of regional labour markets. First, it is found that although unemployment rates vary widely from region to region across the country, the proportions of time that individuals on average are without work are quite similar. Second, we find that unemployment insurance system is strongly biased toward providing increased benefits to the high unemployment rate regions and more than compensates individuals in these regions for the larger amount of time per year they are unemployed. Third, those in the labour force who experience unemployment at any given time tend to be those who are repeatedly unemployed. This group does not account for more than 36 percent of the total labour force, but for the period 1972-1979 have experienced 88 percent of the total unemployed time in Canada. Fourth, the proportion of the labour force that are repeatedly unemployed varies a great deal by region across the country; being much larger in the regions that show high unemployment rates. Fifth, the distributions of wage rates earned by the unemployed when they work in the high unemployment regions do not appear to be lower than those earned in other parts of the country.

These results lead to a number of conclusions related to labour market behaviour and the importance of government policies. First, due to the equalizing tendency of the unemployment experience of individuals across regions and the generous UI benefit system, there is little incentive for the disparties in regional unemployment rates, and hence, the total amount of unemployed time generated in these regions to decline. Unemployment is likely to be reduced only by a

fundamental change in the nature of the jobs available to
workers now experiencing unemployment in these high
unemployment areas. Jobs that last for less than a year will
tend to increase the total amount of unemployed time in a
region because they will give a member of the labour force an
opportunity to remain idle and collect UI benefits once the
job has been terminated. Hence, to reduce unemployment in
these regions, unemployment combined with residence in the
high unemployment regions will have to be made less
attractive and/or jobs will need to be created in these
regions that are permanent in nature. At the same time,
temporary jobs should be discouraged. By permanent jobs we
mean those that last for several years and from which a
worker can not quit and easily be rehired. Second, on equity
grounds there is little justification for the degree of bias
in the present unemployment insurance system favouring the
high unemployment regions. Under the present system the
unemployed individuals in some of the highest unemployment
rate regions spend less time without a source of income than
do those unemployed in the high growth regions. At the same
time the opportunities to engage in non-market activities
while still being classified as unemployed are much greater
in the rural high unemployment rate regions than in the urban
high growth regions. Hence, the incentives to work may be
subtantially less in the traditional high unemployment
regions than are faced by members of the labour force in the
high growth areas.

Notes

1. Earlier papers include Holt (1970), Hall (1970) and Perry (1972)

2. Examples of studies based on Canadian data include Denton et al (1976), Lazar (1977) and McIlveen and Sims (1978)

3. Examples include Denton et al (1976), Lazar (1977), McIlveen and Sims (1978) and Postner (1980).

4. For example, Feldstein (1975), Frank and Freeman (1978), Clark and Summers (1970), Hill and Corcoran (1979), Akerlof and Main (1980), and Lilien (1980)

5. The basic administrative files were made available to us by Employment and Immigration Canada, Ottawa.

6. Approximately 90 per cent of the Canadian labour force is covered by the unemployment insurance system. This estimate can be derived from data in Statistics Canada Catalogues 71-001 and 73-001.

7. Statistics Canada, Catalogue 71-001 (monthly).

8. These 19 regions represent approximately 58 per cent of the Canadian labour force.

9. Economic Council of Canada (1976), People and Jobs, Appendix F.

10. See Statistics Canada, Catalogue 73-001 (quarterly) or CCH Canadian Limited, Canadian Unemployment Insurance Legislation, various editions from 1971 through 1979.

11. Regional differences in eligibility criteria to collect UI benefits have been stregthen since 1978. As an illustration, in the 1971-77 period a worker in a 12% - unemployment-rate region would be eligible for an additional 26 weeks of benefits compared to a worker in a 4% - unemployment-rate region. Since 1978, the worker in the 12% region would be eligible for 32 extra benefit weeks and could work 4 weeks less to establish this eligibility.

12. The current variation in the values of the proportions of unemployed time covered by UI benefits would be expected to be higher than shown in Table 2, cols. 1 and 2 given the increased differentiation in UI eligibility since 1978. See Note 11.

13. The concept of dividing the labour market into permanent and temporary sectors was presented in Jenkins and Kuo (1978). Temporary jobs are those that are short-lived or provide discontinuous employment, while permanent jobs provide continuous employment. Temporary workers are those who experience frequent spells of unemployment (or workers with high turnover rates), while permanent workers are those who are essentially employed continuously (or workers with low turnover rates).

14. Regional unemployment rates are used for targetting other regionally differentiated government programs besides the UI scheme, for example, Canada Works project funding and employment tax credit levels.

15. The highly skewed distribution of the turnover rate (or the probability of entering unemployment from a state of employment) across workers has implications for the structure of stocks-and-flows models of the labour market. It is common to construct a Markov chain-type model with martix of the transition probabilities of moving between various labour-market states. In particular, it is common to apply the to same probability of becoming unemployed to all employed persons. This approach clearly "averages" out an important insight into the structure of unemployment, and furthermore, can lead to the erroneous view that "it is probably more accurate to view "unemployed" as a state through which all workers pass periodically rather than as a description of certain kinds of people" (Holt, 1970:56).

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